

## ***Potential Cultural Factors In Scientific Misconduct Allegations***

Walter M. Meyer, III, Department of Psychiatry and Behavioral Sciences, The University of Texas Medical Branch, Galveston, USA

George M. Bernier, Jr., Department of Internal Medicine, The University of Texas Medical Branch, Galveston, USA

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Since 1993, The University of Texas Medical Branch has had 16 allegations of scientific misconduct. They were each examined carefully during an inquiry by a faculty committee and the scientific integrity officer for evidence of fabrication, falsification or plagiarism. Only one of them was judged to be scientific misconduct. It involved plagiarism, which was acknowledged by the respondent, and this case will not be discussed further in this document. The remaining 15 allegations did not reach the stage of investigation. They involved a variety of other types of complaints: an authorship dispute in 4 cases, inadequate sharing of data in 3 cases or allegations of questionable research practices in the remainder. Since many of these disputes involved individuals who were not born in North America and were raised in different cultural settings, the authors hypothesized that cultural factors underlie many of these allegations. In order to examine this question, they have done a retrospective review of the 15 allegations.

### **Methods**

A retrospective review of these 15 allegations was done to detect the possible involvement of gender, academic status, ethnic factors or cultural concerns. To determine whether any ethnic or cultural group appeared to be overly represented as complainant or respondent, the cultural/ethnic background status of the entire faculty, post-doctoral fellows and research technical personnel was compared to those involved in these allegations.

### **Results**

The 15 complaints involved 29 people; 13 White (10 European descent, 3 Middle Eastern descent), one African American and 15 Asians (9 Indians and 6 Chinese). See Table I for ethnic distribution of the complainants and respondents. One of the Indians was involved in two separate instances, once as a respondent and once as a complainant. All the Asians were born and raised outside of the United States. Six of the complainants were White (4 European descent, 2 Middle Eastern descent) and 3 of these were born and raised outside of North America. Seven of the respondents were White (5 European descent, 2 Middle Eastern) and two were born outside of North America. The one African American individual, born in the United States, was a respondent. Nine Asians (4 Chinese and 5 Indians) were complainants and 7 Asians (2 Chinese and 5 Indians) were respondents.

Corresponding author: Walter J. Meyer III, Department of Psychiatry and Behavioral Sciences, University of Texas Medical Branch, Galveston, TX, 77555, 409-747-8355 (voice), 409-747-8351 (fax), [wmeyere@email.utmb.edu](mailto:wmeyere@email.utmb.edu).

	Complainants					Total
	White, US	White, Foreign	Asian, Indian	Asian, Chinese	African American	
<b>Respondent</b>						
White US born	1	2	1*	1	0	5
White Foreign born	0	1	0	1	0	2
Asian, Indian	2	0	3*	0	0	5
Asian, Chinese	0	0	0	2	0	2
African American	0	0	1	0	0	1
<b>Total</b>	3	3	5	4	0	15

Table I: Number of complainants and respondents by ethnic group

\* One person was a complainant and a respondent

Three subjects involved in these allegations were technicians, seven were post-doctoral fellows and the remaining 19 individuals were faculty. One faculty was involved in two allegations, once as a complainant and once as a respondent. The complainants and the respondents were of very similar ages, mean ages of 45.7 and 44.0 years, respectively. In ten cases, the complainants were older than the respondents and in five they were younger. Ten of the complainants were of lower rank in the university than their respective respondents. Only five of the 29 individuals were female (two Whites, two Indians and one Chinese). These 5 women were involved in a total of 3 allegations.

Six of the allegations involved individuals from different ethnic groups. The remainder involved individuals from the same ethnic or cultural background. Of the six disputes involving more than one ethnic group, three involved White of European origin and Indians; two, a White and Chinese; one, a African American and an Indian. Nine disputes involved individuals from the same ethnic group: two involved Chinese; three involved Indians; and four involved White. Among the disputes involving White as both complainant and respondent, one involved both parties being from the Middle East; one involved both parties born in the USA and of European descent; one involved a complainant born in an eastern block country and a respondent born in the USA; and the last involved a foreign born middle eastern (Egyptian) complainant and an American born Israeli respondent. Two of the allegations involving Asians referred to deep-seated distrust of individuals from similar backgrounds in their country of origins. In one instance, the complainant stated that he knew that the misconduct had occurred because people from the village of the respondent were evil. In the

other instance, the complainant referred to the political leanings of the respondent as they related to their country of origin, i.e., brands of communism.

To determine whether any ethnic or cultural group appeared to be overly represented as complainant or respondent, the cultural/ethnic background status of the entire group of university employees (faculty, bachelor level technicians or post-doctoral fellow) was compared to those involved in complaints. All but one female professor was or had been employees of the university. Only five of the individuals were female (two Whites and three Asians). The faculty is 24% female and 17% of these allegations involve females.

There is a great difference in the ethnic distribution of the total faculty compared to those individuals involved in scientific misconduct allegations. The medical school has a faculty of 750 individuals (550 White, 39 Hispanic, 24 African American and 136 Asian). Of the 136 Asian, at least 55 are from India and 43 are from China. Table II illustrates the differences in ethnic distributions between the faculty, bachelor level research technicians and post-doctoral fellows at large and those individuals involved in scientific misconduct disputes. There is a significant difference between the individuals involved in scientific misconduct allegations and the total group of individuals in the same category for the faculty ( $p < .0001$  by chi-square), the technicians ( $p < .0001$  by chi-square) and the post-doctoral fellows ( $p < .001$  by chi-square). The country of origin was not discerned for the faculty. But there does seem to be among the White individuals an unexpectedly large number of individuals born in the Middle East.

## Discussion

In the early 1990's many universities started

		White	Nat. Am.	Hispanic	Indian	Asian	Total
<b>Total</b>	Faculty*	73.0	3.2	5.2	0.5	18.1	100
<b>Total</b>	Technicians**	56.6	4.6	9.8	0.0	29.0	100
<b>Total</b>	Postdoctoral ***	40.0	3.0	4.0	1.0	52.0	100
<b>Involved in Scientific Misconduct Disputes</b>	Faculty *	52.6	5.3	0.0	0.0	42.1	100
	Technicians**	33.0	0.0	0.0	0.0	67.0	100
	Postdoctoral ***	28.6	0.0	0.0	0.0	71.4	100

Table II: Differences expressed as percent of total in ethnic distributions between the faculty and postdoctoral fellows at large and those individuals involved in scientific misconduct disputes

\*Significantly different  $p < .0001$  by Chi Square, \*\*Significantly different  $p < .0001$  by Chi Square

\*\*\*Significantly different  $p < .001$  by Chi Square

establishing a very formal process to consider scientific misconduct charges. The initial definitions were focused on fabrication, falsification and plagiarism but did leave an opening for examining 'other practices that seriously deviate from those that are commonly accepted within the scientific community for proposing, conducting or reporting research' (so called unusual or questionable practices) (1-3). The allegations or complaints were usually none of these; rather they reflected personal disputes between the complainant and respondent. Questionable research practices were particularly difficult to define and often the scientific integrity officer and/or relevant faculty committee were called upon to make a judgment of intent. Therefore these disputes were almost always impossible to discern with any assurance for fairness. In order to gain insight into these types of complaints, a fairly large amount of work has been done nationally to examine the nature of the complaint. In fact, certain types of complaints such as authorship complaints were rejected as scientific misconduct. Also the Office of Science and Technology Policy has established, but not formally implemented, a more narrowed definition to exclude questionable research practices and to include with fabrication, falsification, and plagiarism only the inappropriate use of documents which might be seen as part of the review process (4). Even with this narrower definition the complaints about authorship, data ownership and access and questionable or sloppy research practices will continue to plague the university committees and scientific integrity officers.

In contrast to open discussion about the nature of the complaints and allegations, almost nothing has been written about the nature of those who made the complaints or those who

were the target of the complaints. The little we do know refers only to the respondents who have been determined to have committed scientific misconduct. We know little about those who brought the complaint forward because of the appropriate concern about damaging the whistleblower. Also almost nothing has been written about those allegations, which did not meet the definition of scientific misconduct as defined by falsification, fabrication, and plagiarism. One study of authorship disputes received at the Ombuds office of Harvard Schools and affiliated hospitals reported that the number of disputes has greatly increased between 1991-2 to 1996-7 (5). Women were involved in the majority (53%) of the complaints and non-US citizens were involved in 21% of them (5). The current study seems to be the only other venture into this area. This study identifies a higher than expected number of individuals who were born, raised and partially educated outside of the United States. In addition, the complaints are often against individuals from the same ethnic background and gender as the complainant. This data is provocative. If substantiated in other universities, it indicates a need to reexamine our education of faculty and post-doctoral fellows concerning the proper use of the scientific misconduct complaint process. Also other mechanisms need to be identified to help settle these misunderstandings among scientific colleagues.

There are significant hazards to doing this type of retrospective review. This type of endeavor invites accusations of racism, gender bias, and other un-American activities, such as racial profiling. In order to get different perspectives on this issue, the authors had the Director of our Affirmative Action Office and a member of our Institute of Medical Humanities

review this manuscript. We are attempting only to describe as a group the complainants and respondents, not to speculate why one group rather than another might utilize the scientific misconduct complaint process to address other related issues in the research group setting. One speaker at the recent ORI conference on research (6) suggested that misconduct complaints are increasing because of the increased collaborative nature of research and increased difficulty in obtaining funding. Only three of our allegations involved collaborations outside of the complainant's research group. Four of our allegations could be linked to some financial factors but they did not seem to be the main issue. Usually the complaint involved very poor communication between the respective parties. Some ground rules for working together need to be taught as part of the research curriculum.

## Conclusions

The vast majority of complaints did not involve scientific misconduct as currently defined. This retrospective review suggests that cultural concerns may contribute to the complaints to the scientific integrity office. Proportionally the Asian group is over represented in the scientific misconduct complaint process. This report documents for one university the magnitude of the apparent influence of cultural differences in the scientific misconduct complaint process. On the surface, this retrospective review suggests that cultural differences account for many of the authorship and other scientific misconduct disputes. Since the vast majority of complaints in this retrospective review did not involve scientific misconduct as currently defined, we believe there is a need for an increased educational effort on the part of the university to orient faculty, bachelor level research technicians and post-doctoral fellows on the appropriate use of the scientific misconduct process and to develop other mechanisms to help them resolve conflicts with fellow scientists. Guidelines for data ownership and management (7), authorship of grants, and authorship of papers (8) have been recently established on our campus to aid in this process.

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